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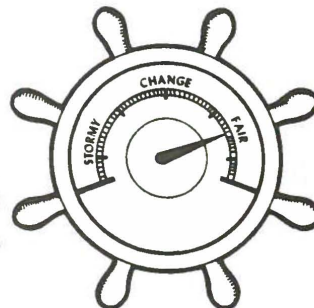
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# The BAROMETER



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The BAROMETER is a student newspaper for the exchange of ideas and information concerning the development and improvement of the professional environment at the Naval Postgraduate School.

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"The War College is presently adapting to the changing trends in foreign relations, domestic sociology and economics, and military technology and balance of forces. If we fail to acknowledge the impact of these trends on our profession, we may miss one of the great historical opportunities for the exercise of maritime power. Whether our particular curriculum will help us to get there or not, it is too early to predict. I believe that we are moving in the right direction. The worst of the trials of change is behind us. Successive classes should savor even greater opportunities."

Vice Admiral Stansfield Turner, USN, President, Naval War College

EDITORIAL COMMENT: Among the many changes which have caused controversy in the Navy in the past few years was the recent series of modifications to the curriculum at the Naval War College in Newport, R.I. This issue of the BAROMETER will include comments by Vice Admiral Turner in his Annual Report (1973) and descriptions of what the new course is composed of.

FEATURE: NAVAL WAR COLLEGE 1972-1973, THE REPORT OF THE PRESIDENT

## WHY AN ANNUAL REPORT?

"An Annual Report is a means used by most educational institutions to advise alumni and friends of the experience of the past year and of future plans. It seems fitting this year that the Naval War College should issue an Annual Report. The college has been reorganized, our educational philosophy rethought, and our objectives changed. It has been a year of experimentation, of trial and error, and now we would like to see where we have been, the achievements, the shortcomings, the lessons learned, and where we are going."

## GENESIS OF CHANGE

In the past 90 years the Naval War College has varied its emphasis from the far-ranging concepts of maritime power enunciated by Mahan to tactical doctrine and techniques, to the strategy and tactics of oceanwide naval campaigns, to the position of the United States as the leading power in the international political and military affairs of the post-World War II era. In 1972 it appeared to me to be particularly appropriate to review the curriculum to ensure that it fitted with the changing world and military environment.

Over the past decade three developments appear to have changed the demands which the Navy and its officers face. The first is in the area of U.S. foreign policy and national strategy. Here both form and substance are undergoing fundamental alterations. In this process, the military element is less persuasive than in the past, particularly in the public forum. Our advice is accepted less on the basis of past prestige and precedent. In the emerging aura of detente, the standard rationales for military preparedness are challenged as outmoded and shallow. To be effective today, military strategists required a broad perspective on national strategy. They need, for instance, the breadth to see that the bipolar world we knew and taught for a quarter of a century was really a historical happenstance. It appeared that it was time to hearken back to Mahan's days at Newport, when he and the students studied the historical heritage of the Navy and probed the strategic purposes of having naval forces.

Secondly, we have clearly entered a period in which the ordering of national priorities is forcing very difficult choices between military and nonmilitary expenditures. How this will balance out in the years ahead will depend on many national and international factors. Still, stiff competition for resources must be anticipated. This will require realistic appraisals of the alternative employments of available funds. The amount of funds the Navy



receives will be increasingly a function of how our chosen alternatives compare with those of others. This requires officers who can see what another man's alternatives might be, as well as our own, and analyze objectively the strengths and weaknesses of both. In short, it appeared that new emphasis on the economics of defense decisionmaking was in order.

Thirdly, we have left behind the days when the U.S. Navy had clear qualitative and quantitative advantage at sea. No longer can we implicitly count on overwhelming all potential opponents. We must be ready to be more clever and more innovative in our tactics. This, after all, should be our long suit. We have the stronger heritage of experience and success at sea. As long as we do not mistakenly become shackled to traditional tactical patterns, this should be a strong asset. This situation appeared to call for a return to the War College's concentration on naval tactics, as in the 1920's and 1930's, the period of which Admiral Nimitz spoke when he said that the battles of World War II had been war gamed in advance here. In addition, the pace of technology provides today's commander with many more options than his predecessor. We may not be able to anticipate the preferred tactic from amongst those available, but we should be able to identify tactical decision points and the type of choices which will have to be made. Teaching approved tactics, or doctrine, is the province of the training establishment; our concern appeared to be the reasoning process for deriving tactics in light of whatever weapons and sensors may appear on tomorrow's horizon.

If a Naval War College is to serve the Navy and the Nation well, it must improve the officer students' abilities to address in depth these three particular areas. In addition, one very important factor which must also be taken into account in considering what to teach is the experience and attitude of the students. Many officers today have a rather rigid and restrictive view of the decisionmaking process. Most midcareer officers come from a "Newtonian world"--a world with rational right and wrong answers to fairly clearly defined questions. Much of their experience is with technical systems that demand exact treatment and with the military command environment, which properly calls of unambiguous response. What we need, then, is to construct a course that involves the students with varying kinds of decisionmaking problems, best with uncertainty and imprecision, the type they will certainly face in the future. In other words, the task at hand was to design a course that would help them to deal more confidently with decisions involving uncertainty.

After considering many alternative approaches, we chose the study of real world cases of decisionmaking in the three areas of concern. In Strategy this meant scrutinizing the decisions of past strategists and recognizing the rational and nonrational, the precise and imprecise factors that past decisionmakers weighed in balance. In the area of defense economics, it meant looking at cases involving management decisions which highlighted objectives, alternative solutions and their comparisons, and more importantly, the principles which they imply. In Tactics it meant identifying key tactical interactions and estimating the impact of different courses of action at each potential decision juncture. Overall, this led us to a curriculum that stresses problem solving in each of these three areas, rather than factual data of a contemporary nature. This means teaching how to approach a few representative problems, with the idea that this would prepare the students to handle a variety of problems in their future assignments.

#### PRINCIPAL ACCOMPLISHMENTS IN ACADEMIC YEAR 1972-73

We structured the curriculum to a problem-solving approach, treating the areas of strategy, resource management, and naval tactics. A year has gone by. A graduating class is now performing in many diverse billets. I believe that, as a whole, these officers are better able to approach problems and cope constructively with today's world because of their War College education. Of course, the proof of my belief is as yet conjecture in large measure, but here are some of the evidences which influenced my judgment:

**STUDENT INVOLVEMENT.** In the broadest sense, the primary objectives of the new curriculum is to sharpen the critical faculties of the students. Accomplishment of this objective was evidenced by many students as time progressed by the improved quality of their seminar discussions and by the type of questions they posed in their seminars and to lecturers. By midyear, for example, a visiting Navy Project Manager was confronted by student questions that revealed feasible alternatives which he previously had not considered. Another measure of the heightened critical faculties of the students came from the comments of our visiting lecturers and panelists who had occasion to observe the students. One visiting professor wrote: *I got the impression--indeed, strong impression--that the curriculum had succeeded in engaging students. They were all involved and, even if they didn't realize it, "engaged". They were thinking about the entire endeavor, and it was certainly clear that the program was having an impact upon them--for I encountered no one who was simply neutral or passive. And it seems to me that when a teaching program has this kind of impact--if it produces responses and reaction--then it is, in fact, a successful program.*

**INDIVIDUAL EFFORT:** The best way for a college to sharpen individual critical faculties is to exercise the reasoning powers of the students to their fullest. We moved in this direction by reducing the number of required lectures on the ground that lectures are a passive learning experience. In their stead, reading requirements quintupled, and writing demands increased markedly. Additionally, examinations were instituted.



Examinations, aturally, were controversial. Overall, they proved beneficial. At the end of the year, the majority of the students endorsed them as a positive learning experience. The principal real hazard of exams was the obvious effort of some students to "win"-to seek the school solution-rather than to learn. This could well have been expected since these officers are highly competitive and since many of them believe that there are right and wrong answers to even complex problems and, hence, to examinations. We tried, but not fully successfully, to destroy this illusion by preparing examination questions that encouraged more than one answer. Our intent was to ask questions that demanded sound reasoning and not the parroting back of memorized factual data. Many different answers could receive a grade of "superior". Even at the year's end some of the students could not accept this and continued to want "right" solutions. The persistence of that tendency is a measure of the degree to which we fell short of our expectations.

CURRICULUM FOCUS. Perhaps the most significant change in the curriculum was the deemphasizing of contemporary data and events. This was based on the belief that we should be looking to the long term, the 5 to 15 years that these officers have left to serve the Navy, rather than their next tour of duty. At first this was difficult for many of the students to accept, for, naturally, they are competitively oriented to today and tomorrow. There was also some concern that specific areas of Navy specialty were not being highlighted independently. By covering specialty areas through case studies, we expect to show the student such matters as international law, communications, public affairs, et cetera, in the total context of the Navy rather than in a series of separate and discrete fragments.

SCHOLASTIC DISCIPLINE. The course applied the lessons of history to the issues of today in order to deepen the students' grasp of the motivating forces in international relations and strategic competition. They, for instance, probed the multiple meanings of the basic terminology, e.g., "limited war", "balance of power", et cetera. Many students did not appreciate that they were making a connection between historical examples and current practice until well into the course or until they were immersed in subsequent courses and looked back. Perhaps the most unique element of the new program was plunging these officers into a scholastic discipline. The starkness of this change forced them to stretch critical faculties....

#### FUTURE PLANS AND PROBLEMS

The changes we have made certainly did not bring unmixed blessings. It will be a number of years before we can confidently assess their impact. In the interim, certain decisions must be addressed in light of the information which we currently have.

FORMAL DEGREES. Our long and rewarding association with George Washington University was terminated amicably this year. Increased student involvement in our own curriculum, brought about by the decrease in outside lecturers and increase in reading and writing assignments, reduced significantly the time available to pursue profitably a cooperative degree program. This was demonstrated by the number of students who attempted both but, because of the heavy demands of the resident program, dropped the George Washington program. Also, the surfeit of officers holding an advanced degree in international affairs reduced the utility of the program to the Navy. Many students were disappointed by this action both because the degree was tangible evidence of academic achievement and because many believed it affected promotion and assignment opportunities. This has raised again the question of possible accreditation at the master's level of our own program. Although many educators agree that the War College program is the full equivalent of a master's program in a civilian university, accreditation would, among other things, limit flexibility in faculty appointments, force the inclusion of unwanted courses in the curriculum, limit authority for course revision, require an act of Congress, and be of little real value to the Military Establishment. However, accreditation is being examined-both full and partial.

PERFORMANCE INCENTIVES. To attract talent students and faculty, it is imperative that the War College maintain a reputation for excellence. With the termination of the master's program, some prospective students may question whether diligent application to a formal curriculum is worthwhile. It is all very well to say they will be enriched professionally, but will anyone except themselves know it?

We have moved to make the rewards for excellence commensurate with the individual student's efforts. Those students who achieve recognition as Distinguished Graduates receive substantive fitness reports, many of these are recommended for accelerated promotion, and the appropriate selection boards are being briefed on this change in procedure. Fitness reports for all students contain the statement, "...The Chief of Naval Personnel has recognized completion of this curriculum as the professional military counterpart of an academic master's degree and is so considered for officer personnel management purposes."

In addition, at the completion of each segment of the curriculum, we identify those students who have excelled in that area. I then write a personal letter to the appropriate service Chief of Personnel pointing out that these officers/civilians are particularly well qualified for duty in strategic planning/politico-military affairs or program planning/systems analysis/program management or tactical evaluation and development. Hopefully, these letters will help to place our best performers in top billets in which they are interested and where they will be provided the opportunity to develop the potential they displayed at the War College....



COURSE CONTENT. The pressures to introduce specific material at the expense of material designed to develop critical reasoning faculties are unceasing. Almost every day someone comes by with a new idea of what has been left out of the curriculum. Most of these ideas relate to items that are high on lists of contemporary concerns. We do not have the time, however, both to treat in depth issues of current interest and to conduct courses aimed at enhancing defense problem solving and decisionmaking.

The coming year will be devoted to consolidation of gains and minor course adjustments dictated primarily by excellent student course evaluations, faculty reactions, recommendations of an independent consultant on curriculum evaluation from a prominent university, and a better understanding of how to achieve our expressed goals. Primary emphasis will be on improved technique with minor changes in course content.

The Strategy and Policy Course will emphasize more strategy and less history, though historical case studies will still be the teaching vehicle. This year's case studies will place greater emphasis on the maritime element of strategy. The course will also incorporate three new seminar topics covering the post-World War II period, but hopefully without getting mired down in the details and emotionalism of current affairs.

The Management Course has been renamed "Defense Economics and Decisionmaking" to reflect more precisely its content. The sequence of course material will be restructured. Quantitative analysis will be taught in the standard college classroom style rather than in seminars. We also plan to incorporate more material on human motivation and the behavioral sciences. A formal course in this area has been designed, and case studies emphasizing the human aspects of decisionmaking and implementation will be introduced in the seminars.

In the Tactics Course the readings on the fundamentals of weapons and sensors will be revised. There will also be increasing emphasis on the analytical steps for deriving tactical procedures....

#### NEW CURRICULUM

The three basic courses will be interwoven between the College of Naval Warfare (CNW) (Senior Course), the College of Naval Command and Staff (CNC&S) (Junior Course), and the Naval Command College (NCC) (International Officer Course) as follows:

	1st Trimester (14 weeks)	2d Trimester (14 weeks)	3d Trimester (10 weeks)
CNW	Strategy and Policy	Defense Decisionmaking	Naval Tactics
NCC	Strategy and Policy	Defense Decisionmaking	Naval Tactics
CNC&S	Defense Decisionmaking	Naval Tactics	Strategy and Policy

This program minimizes faculty requirements by dividing the student load roughly into two equal groups which will be taught by separate faculties each trimester. It also means that each faculty teaches two trimesters out of three and has one trimester for research, teaching electives, and study.

Under this year's program CNW and CNC&S students will take identical Defense Decision-making Courses. CNW is offered 4 more weeks of Strategy and Policy than CNC&S while the reverse will hold true for Naval Tactics.

THE RELEVANCE OF WAR COLLEGES. The question occasionally arises as to whether these changes we have made at Newport are implicitly a criticism of the programs at the other four War Colleges. My response to this is emphatically "No". Each War College has a distinct mission. Each has distinct problems and priorities. For instance, one of the primary considerations in altering the curriculum at the Naval War College has been the difficulty in freeing naval officers from the top 10-15 percent of the officer corps to attend. Another problem has been the fact noted above that only about 15 percent of the Naval Warfare College students are graduates of a Command and Staff College. Neither of these conditions pertain at the other War Colleges. The changes we have made have been uniquely tailored to the conditions here. If some of the changes at Newport would be useful to the other colleges, we are anxious to share them and are doing so.

At the same time, our changes here strengthen our position vis-a-vis external critics of War Colleges in general. Higher military education is indeed under scrutiny today. We have strengthened our position by eliminating expensive field trips, by deleting the competing master's degree program, by increasing the academic workload, and by constructing a course that cannot be found elsewhere in civilian or military institutions. Military strategy is not taught on civilian campuses. In the lingering wake of Vietnam, military history is also out of vogue on them. Our Defense Economics and Decisionmaking Course is uniquely tailored to DOD and Navy resource management issues, which are not the focus of civilian business schools. Our Tactics Course is unique to the Navy in every respect. We stand ready to defend the need for this college on these grounds of professional education for our profession alone, but it also has a more far-ranging justification.

This is the need for a center of thinking on maritime matters. If we are indeed a profession and if the Navy has a long-term importance to our country, somewhere, someplace, some people must escape the standard stereotypes and think deeply about the purposes, trends, and future of that Navy. It is difficult to do this in the atmosphere of daily pressures in

Washington. Newport is the ideal in many respects by being close yet distant from the day-to-day realities of running the Navy. We need, then, to develop a true university atmosphere here in Newport, one in which, in addition to the teaching that is accomplished, there is a place for research, lectures, symposia, and visiting scholars and military commanders, all to the end of promoting a certain intellectual vigor and stimulus."

(Excerpts from the NAVAL WAR COLLEGE REVIEW, ANNUAL REPORT 1973.)

\*\*\*SERVICE NOTES

ASSAULT SHIP CHRISTENED - USS TARAWA (LHA-1), designed from keel up with the requirements of the landing force in mind, was launched 1 December 1973 at Pascagoula, Miss. It is the first of five new general purpose amphibious assault ships, which in the words of Gen. Robert E. Cushman, Jr. "gets it all together". The Commandant was principal speaker at the launching ceremony. Mrs. Cushman was the ship's sponsor. The LHA will carry a battalion landing team (BLT), its equipment and supplies, and land them either by helicopter or tracked landing vehicles (LVT). The ship stands 20 stories high. TARAWA, which is scheduled for delivery in 15 months, and its following sister ships, will become the backbone of the Navy/Marine Corps amphibious team. MARINE CORPS GAZETTE January 1974.

NEW SES BID REQUESTS SEEN - Navy is expected this week to issue a new request for proposals or an amended version of the original request for the detailed design phase of developing a 2,000-ton surface effect ship (SES) and development of component technology. But the service is proceeding in a manner to minimize claims by contractors against the government.

Preliminary source selection named two contractors, Textron Bell Aerospace Div. and Lockheed, from among four competitors after Aerojet-General failed to submit a cost proposal package as required by the earlier proposals request. Bell and Aerojet both have operational prototype 100-ton SES vessels undergoing rough water tests.

The fourth competitor is Rohr/Litton, and Navy and Defense Department officials intended to keep them in the development for solving some component problems while the two prime contractors, Bell and Lockheed, begin detailed development.

Aerojet-General told Navy and Defense Department officials that component technology development was necessary and that 18-24 months additional time would be required for that purpose.

A Defense Systems Acquisition Review Council (DSARC) decision to provide a period for component development while design continues caused the Pentagon and the Navy to resume 2,000-ton SES development with a re-bid approach because the delay is similar to that cited by Aerojet-General when it elected not to submit a cost proposal in answer to the original RFP.

Some Pentagon officials are calling the latest action by the Defense Department "the Aerojet decision" because the DSARC action could reopen the competition to that company.

Dr. Malcolm R. Currie, director of Defense research and engineering is insisting that, since the delay in component development is necessary and since it is close to Aerojet's position, the contractor must be allowed to compete.

Some Pentagon and Navy officials believe Aerojet has done everything possible to slow down the 2,000-ton SES program because the company lacked sufficient technology to compete. Some company and other Defense Department officials believe the DSARC action has vindicated the contractor's position.

The Aerojet-General SES-100A prototype has experienced six failures over the past year and a half, and company officials lay the cause to the salt water demisters used on the four Lycoming TF35-16 engines. Aerojet now believes most engine problems have been solved.

Bell uses three Pratt & Whitney FT12A-6 engines at 4,500 shp. and also has experienced failures since beginning saltwater testing in the Gulf of Mexico. (AVIATION WEEK & SPACE TECHNOLOGY February 4, 1974.)